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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,684	03/20/2001	Ron Dembo	13408.00007	1100

			EXAMINER
1059	7590	10/05/2006	DASS, HARISH T

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ART UNIT	PAPER NUMBER
3693	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
		09/811,684	DEMBO ET AL.
Office Action Summary		Examiner	Art Unit
		Harish T. Dass	3693

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 June 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

6/30/2006 has been entered.

Claim 11 is canceled.

Drawings

2.   New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because, Figures 1, 2, and 3 are prior art, see Brief Description of The

Drawings, and these figures should be labeled "Prior Art".

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10, 15-16, 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Dembo (US 5,148,365) in view of Moore et al (herein after Moore; US 5,446,885),

Tull, Jr. et al (hereinafter Tull, Jr. - US 6092056), Admitted Prior Art (APA), and

"Warehouse companions take analysis well beyond relational database arena (NSTL

report)", Technology in Government. Willowdale: Feb 1997.Vol.4, Iss. 2; pg. 25

(hereinafter NSTL-Report).

        Re. Claims 1 15-16, 18-20, 24-29 Dembo discloses - selecting a set of financial

instruments (options or securities), each financial instrument (option) in said set having

a model defined therefore, each model operating on at least one risk factor to produce a

value for said financial instrument (option),

        selecting a set of scenarios, each scenario comprising a risk factor value for each

risk factor operated on by said models of said financial instruments (options) at least a

first and second time interval and each scenario having a probability value assigned

thereto, said probability value representing the likelihood of said scenario occurring and

- at least one risk engine (*processing software*) operable to determine an instrument risk

value (risk exposure) for each financial instrument in said set of financial instruments,

said risk value determined by evaluating, in view of said risk factors values in each said

scenario and at each of at least a first and second time interval, a model stored for said

instrument [see entire document particularly, Abs; C1 L4-L67; C2 L43 to C3 L12; C4

L50 to C5 L12; C8 L27-L67; Claims],

(15) step of modifying said set of scenarios to change at least one risk factor

value and performing steps (iii) through (v) to produce a new risk metric [C1 L4-L67; C2

L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L37],

(16) said at least one risk factor value is changed such that said value does not

change with time [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L67], and

databases which store information for options (options are financial instruments),

risk engine (*processing software*), [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12;

C8 L27-L67].

Dembo, explicitly, does not disclose, - applying said selected set of scenarios to

said set of financial instruments to produce at least one instrument risk value for each

financial instrument in said set of financial instruments for each scenario in said set of

scenarios for each time interval, and

applying said selected set of scenarios to said portfolio to produce an instrument

risk value for each financial instrument in said portfolio for each scenario in said set of

scenarios for each time interval;

(iv) storing first instrument risk values produced at step (iii) in a database residing

on at least one computer, wherein at least a subset of said first instrument risk values

comprises mark-to-future values, said database organized as a multi-dimensional

structure wherein one axis of said structure represents financial instruments, another

axis of said structure represents scenarios and another axis of said structure represents

time intervals. wherein the at least one first instrument risk value associated with the

respective financial instrument. scenario, and time interval are stored in said structure, and

- for a portfolio of instruments comprising at least a subset of said set of financial instruments, producing a desired risk metric, producing a first measure of said at least one risk metric, wherein said producing step is performed by at least one aggregation engine adapted to retrieve for each financial instrument in said portfolio, stored instrument risk values for each scenario in said set of scenarios for each time interval from said database;

sum said retrieved instrument risk values at each scenario at each time interval to produce aggregated risk values for said portfolio; and compute said desired risk metric using said aggregated risk values for said portfolio.

wherein said producing step is performed after completion of steps (i) to (iv).

(18) step of storing said produced risk metrics in said database

(19) the step of determining a credit exposure risk for at least one first party who is counter party for at least one of said financial instruments in said set of financial instruments, determining a subset of said set of financial instruments for which said first party is the counter party and determining the credit exposure for said first party by retrieving said stored values and said associated probabilities from said database.

- producing a second measure of said at least one risk metric, wherein said producing step at step (vi) is performed by said at least one aggregation engine further adapted to combine associated probabilities and said additional instrument risk values for said altered financial instruments with said stored instrument risk values for unaltered

financial instruments in said set of financial instruments retrieved from said database to a

compute said second measure of said at least one risk metric, and

- for each financial instrument in said set of financial instruments affected by said

proposed transaction, altering each said affected financial instrument in accordance with

said proposed transaction and applying said selected set of scenarios to each altered

financial instrument to produce one or more additional instrument risk values for each

altered financial instrument for each scenario in said set of scenarios for each time interval;

(25) wherein said additional instrument risk values for said altered (updated)

financial instruments are stored in said database.

(26) wherein said proposed transaction comprises altering the amount of at least

one financial instrument in said set of financial instruments,

(27) wherein said proposed transaction comprises adding a financial instrument

to said set of financial instruments.

(28) wherein steps (v) and (vi) are performed for a second proposed transaction

and said second measure of said at least one risk metric is produced for each of said

proposed transactions.

However APA discloses (iv) storing first instrument risk values produced at step

(iii) in a database residing on at least one computer, wherein at least a subset of said

first instrument risk values comprises mark-to-future values, and wherein the at least

one first instrument risk value associated with the respective financial instrument.

scenario, and time interval are stored [see the immediate application's specification of

pages 7 line 1 to page 8 line 31, this is a prior art. Particularly, in page 8 lines 2-14] to store total risk value and probability assigned to scenario for future use.

NSTL-Report discloses database organized as a multi-dimensional structure wherein one axis of said structure represents financial instruments, another axis of said structure represents scenarios and another axis of said structure represents time intervals. in said structure" and storing the structure [see pages 1-3] to analyze a product (financial product) with more than three dimensions for different scenarios that analysis may need.

Moore discloses *apply*ing said selected set of scenarios to said set of financial instruments to produce a risk value for each financial instrument in said set of financial instruments for each scenario in said set of scenarios for each time interval, storing in a database each financial instrument risk value produced for each financial instrument in said set, and for a portfolio of financial instruments comprising at least a subset of said set of financial instruments, producing a desired risk metric from said associated probabilities and said determined risk values for each financial instrument of said portfolio by retrieving said stored risk values from said database, and step of storing said produced risk metrics in said database and step of determining a credit exposure risk for at least one first party who is counter party for at least one of said financial instruments in said set of financial instruments, determining a subset of said set of financial instruments for which said first party is the counter party and determining the credit exposure for said first party by retrieving said stored values and said associated probabilities from said database and risk engine (GRMS – Global Risk Management

system) [Abs; figures 1-7; C1 L8 to C2 L49; C3 L8-L27; C3 L48-L63; C4 L19-L36; C14

L7-L12; C30 L25 to C31 L47] to perform a risk calculation based upon a specific rule.

Tull, Jr. discloses too, storing instrument risk values produced at step (iii) in a

database, a database to store each said determined instrument risk value and storing in

a database each instrument risk value produced at step (ii); [(1-v)(24-iv)(20-c) for a

portfolio of instruments comprising at least a subset of said set of financial instruments,

producing a desired risk metric, producing a first measure of said at least one risk

metric, wherein said producing step is performed by at least one aggregation engine

(mathematical programming) adapted to retrieve for each financial instrument in said

portfolio, stored instrument risk values for each scenario in said set of scenarios for each

time interval from said database; sum said retrieved instrument risk values at each

scenario at each time interval to produce aggregated risk values for said portfolio; and

compute said desired risk metric using said aggregated risk values for said portfolio

[Abstract; figures 1, 7; C3 L18 to C4 L63; C7 L1 to C9 L67; C13 L27 to C65; C19 L19 to

C27] to periodically evaluates the performance of the financial instrument, and reflect

the current aggregate value of security.

wherein said producing step is performed after completion of steps (i) to (iv) is a

business choice to provide final result.

Statistics and Probability math that computing probabilities of events in finite

sample is often greatly simplified by use of rules for permutations and combinations is

well known of one of ordinary skill in the art of, wherein said proposed transaction

comprises altering the amount of at least one financial instrument in said set of financial

instruments, wherein said proposed transaction comprises adding a financial instrument

to said set of financial instruments, and wherein steps (v) and (vi) are performed for a

second proposed transaction and said second measure of said at least one risk metric

(table or spread sheet) is produced for each of said proposed transactions are business

decisions and making a spread sheet (tables) with different evaluation (calculation,

numbers, updates) are not an inventive idea and it is used in every business,

engineering and industrial analysis to compare differences between different set of

analysis with different criteria and assumption for the same problem. The examiner

takes official notice that he has done many engineering analysis in area of

instrumentation & control, failure mode analysis, risk assessment and procurement of

equipment.

It would have been obvious to one of ordinary skill in the art at the time the

Applicant's invention was made to modify the teaching of Dembo and include a system

and applications of produce set of risk values, store the properties and attributes values

and structures in multi-dimension database for different scenarios and retrieve the

values/structures from database to reuse, as taught by Moore, Tull, Jr., APA and NSTL-

Report, to periodically evaluates the performance of the financial instrument and

analyze a product (financial product) with more than three dimensions for different

scenarios that analysis may need, and perform a risk calculation based upon a specific

rule, based on finite samples, and store total risk value and probability assigned to

scenario for future use in multi-dimension database as a structure or an object.

Re. Claim 2, Dembo, APA, Tull or NSTL-Report does not disclose the step of

defining whether each instrument risk value produced is stored in step (iv) as an

individual instrument risk value or is aggregated with at least one other financial

instrument value and stored as an aggregated value. However, Moore discloses

defining rules, storing data separately, or aggregated [Abs; C1 L8 to C2 L50; C5 L48 to

C6 L15; C17 L57-L62; C24 L37-L63; C30 L25-L67]. It would have been obvious to one

of ordinary skill in the art at the time the Applicant's invention was made to modify the

teaching of Dembo, APA, Tull and NSTL-Report and include define values as individual

or aggregate, as taught by Moore, to tabulate appropriate values for situation and

scenario.

Re. Claim 3, Dembo discloses where in step (v), said user first selects a subset

of financial instruments of interest from said set of financial instruments and said

desired risk metric is produced for said subset by retrieving determined risk values for

each financial instrument in said subset from said database [Abs; C1 L6-L18; C2 L57 to

C3 L55].

Re. claims 4-10 & 17, Dembo discloses (17) step of selecting a first subset of

said set of financial instruments and determining a risk metric and selecting a second

subset of said financial instruments wherein at least one financial instrument in said first

subset is replaced with another financial instrument, and performing steps (iii) through (v)

produce a new risk metric [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-

L37]. Dembo, explicitly, does not disclose:

(4) where risk factor values for each said risk factor are also stored in said

database.

(5) wherein definitions of portfolios of financial instruments stored in said

database are predefined,

(6) wherein said definitions of portfolios are stored in said database, and

(7) where steps (iii), a check is first performed to determine if corresponding risk

values for an instrument are already present in said database and risk values are only

produced for those not already present,

(8) wherein step (iii) and (v) are performed in parallel (processing modules) on

subsets of said set of financial instruments,

(9) where step (v) is performed by at least two users (workstations), each of said

at least two users producing a risk metric for a different selected subset of said set of

financial instruments, and (10) where step (v) is performed in parallel by each of said at

least two users.

However, Moore discloses such steps [C1 L8 to C2 L50; C13 L24-L60; C17 L45

to C18 L23]. It would have been obvious to one of ordinary skill in the art at the time the

Applicant's invention was made to modify the teaching of Dembo, APA, Tull and NSTL-

Report and include storing values, definitions in database and checking if the value

already exists, as taught by Moore, to save time, a common practice in business,

computer and engineering such as developing tables, checking ID and password, etc. In

communication, control and business multiprocessing (multithreads) are commonly

known and all of known operating systems support parallel processing, and it is well

known that commonly used NT platform is used by many users (workstations) and

users (two, three, ...) can use the same software application at the same time (e.g.

WORD).

Re. Claims 21-22, Dembo discloses a risk management system according to claim

20 wherein said risk engine further comprises a user interface to allow a user to define a

portfolio of financial instruments for said aggregating engine to operate on, and wherein

defined portfolios are stored in said database. [C8 L12-L25; C16 L27-L37].

Re. Claim 23 Dembo, explicitly, does not disclose least two risk engines, each of

said at least two risk engines operating in parallel to produce instrument risk values for

a subset of said set of financial instruments. However, Moore discloses such steps [C15

L53-59]. It would have been obvious to one of ordinary skill in the art at the time the

Applicant's invention was made to modify the teaching of Dembo, APA, Tull and NSTL-

Report and include several risk engines (GRMS) operating in parallel, as taught by

Moore, to add redundancy in case one system fails the user switch to next system. It is

well known that most of DB systems are redundant and synchronized in recover data in

case one of the database engines fails.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo in

view of Moore, Tull, Jr., Admitted Prior Art (APA), and NSTL-Report, as applied to claim

1 above and further in view of Ohata et al (herein Ohata; US 5,864,857).

Re. Claims 12-14 NSTL-Report discloses database organized as a multi-

dimensional structure wherein one axis of said structure represents product, and

Ohata discloses wherein data is read from and written to said database in multi-

dimensional groupings, wherein said grouping includes a selected amount of adjacent

data from each of said axes of said structure, wherein said selected amount of adjacent

data on a first axis differs from said selected amount of data on a second axis, and

wherein the total size of storage required for said multi-dimensional groupings does not

exceed a preselected size [Abs; C1 L5 to C4 L37; C9 L1-L67; C12 L45 to C13 L5]. It

would have been obvious to one of ordinary skill in the art at the time the Applicant's

invention was made to modify the teaching of Dembo, APA, Tull and NSTL-Report and

include processing and storing multi-dimension data, as taught by Ohata, to pair the

data and store them on a page for fast retrieval.

Response to Arguments

4.   Applicant's arguments with respect to independent pending claims have been

considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harish T. Dass whose telephone number is 571-272-6793. The examiner can normally be reached on 8:00 AM to 4:50 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell can be reached on 571-272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Harish T Dass
Examiner
Art Unit 3693

9/14/06